CSE 440 Assignment 2d: Contextual Inquiry Review
Time Balance - Ryan Parsons, Chad Price, Jia Reese, Alex Vassallo

Themes

The primary theme we found between contextual inquiries was the importance of individualization. Everyone has a different ideal time balance, and tries different things to meet their own goals. We need to make sure that our solution is flexible enough to meet all of the goals described below. Another important theme was the idea of sharing a schedule. Both work and socializing depend on other people, so being able to communicate and plan together is important, but everyone uses a different planner. In addition, the most popular planners do not actively track users. In some cases, if the user goes off schedule, they need to manually shift all the other events. Unfortunately this adds more time and work onto a person who is already busy. Our participants expressed interest in an application that could easily import schedules from their other calendars and integrate them together. Finally, the last theme we saw was automatic notifications. People came up with all kinds of different alarms to notify them before important events. We want to make sure that they don't miss these notifications even if they forget their phone/computer or run out of battery.

Participants

Jack is a salary based software developer who only works from his home office. He is given a daily or weekly task to complete by pulling a task from a list created by himself and other employees. The current overall task of his department is to build a complete suite of web tools to manage the company efficiently. He spends a majority of his time at home and would like a better way to schedule his daily routine around a full day of work.

Jack currently uses a simple timer to track his work progress, and his natural habits to fill in the remainder of the day. He also focuses on how much energy he exerts during the day, as sitting behind a monitor all day is not healthy. He would like to balance work, hobbies, sleep, and exercise. He has a very similar routine each day, and could easily program his day into a schedule, but does not do so because any spontaneous adjustments to his schedule results in a cumbersome process of adjustments in the program. He also has a hard time stopping and resuming work, so he does not usually break up his tasks during the day. We came to the conclusion that if he were able to program in his ideal "balanced" day into a tracker, it would need a set of alarms to alert him when it was time to do the next thing, and an available "snooze" button that automatically shifted everything in his schedule. Jack liked the idea of having templates for his daily routines so he could easily load up a normal day into a scheduler, but would still require an easy way to modify it "on the fly". At the end of each day, he would like to see a report of his actual "time-balance" and exercise goals.

Another element we learned about was the design package. Jack was not too excited to have an app on his phone that tethered him to it for 24 hours. We presented the idea of a wearable watch design which could include a pulse sensor to monitor his heart rate. This caught his interest as a way to directly monitor how much exercise he gets, schedule his balance of tasks throughout the day, and be easily available and visible on his wrist.

Jeremy is a pharmacist who works in Bartell Drugs in Ballard, Seattle. He has a "fixed rotation" schedule. That is, within each week he has a fixed schedule, but every week the schedule is different. He will know his schedule in at least a month's advance.

Jeremy is already used to his "fixed rotation" and he plans his personal life around it. If he works in the morning, he will go to the gym for about 2 or 3 times that week. If he works at night, he will just stay at home in the morning because he doesn't want to be tired before he goes to work. He has two days off each week. One thing that bothers him is that he can't have a project that he wants to do which takes more than two days. He hardly has a chance to get out of town for a vacation.

Jeremy is currently using a scheduler called Dayforce. His store manager posts his schedule in Dayforce, then he can access it online. He only uses Dayforce for work, not for his personal life. Occasionally he uses a timer or a reminder on his cellphone. Jeremy's girlfriend is also a pharmacist for Bartell Drugs, but in a different store. Most of the time, they have different schedules. Jeremy was been looking for an app that could access his schedule and his girlfriend's schedule at the same time so that they could find the best time to hang out.

There are also some special cases that Dayforce doesn't handle. For example, one of the pharmacy technicians, he has a night class every Tuesday. Other employees at the pharmacy have to change their schedules to cover his shift. Jeremy wants an app that can notify him when his schedule changes. He doesn't check Dayforce every day because his schedule is pretty consistent. He also wants to get a notification at night to ask him to go to bed early when he has a morning shift the next day.

Jeremy's ideal balance of time is 40 percent work, 30 percent social life and 30 percent sleep. He feels comfortable with either cellphone app or wearables. But he prefers an application with the feature that he can directly transfer his working schedule from Dayforce to the app. He doesn't want to enter his schedule every day. That might be a feature that we can consider designing.

Our final group of participants were the editors of The Daily, the UW's student-run newspaper. We went to the newsroom late in the evening, where the next day's newspaper was being put together.

The newsroom itself was a balance of work, social, and personal time. Some of the editors stayed there for seven or more hours a day, but not just for the paper. They did homework or watched TV online while waiting for their next article or photo to come

in. Many of the editors were eating dinner or just having a snack at their desk so they didn't have to leave their computers. One editor whose birthday was the next day talked about how she planned to "escape" at some point so that she could celebrate.

The biggest challenge editors had was finding personal time. One of the editors who was in a sorority said that she was always the last person to get home. She wished that she could be home sooner for her friends who didn't stay up so late. Another editor said that commuting to Bothell, where all of his classes were, was his biggest time sink. Commuting was a common problem for everyone in the room because they had no choice but to build their schedules around it. One editor said that wanted a way to automatically download lecture times and office hours into his Google calendar because he hated manually entering it every quarter. Another editor shared a google calendar with her twin sister so that they could coordinate when to hang out.

Each person we talked to had a different system for managing their time balance. The first person we talked to had a very flexible written planner. She could have a separate list of appointments for today and a longer todo list. Another editor said that she used to draw her own planner by hand. Yet another editor said that she preferred a paper planner because she liked being able to cross things off in it. However, most editors relied on high-tech solutions. Many had calendar apps that sync-ed with Google or the I-Cloud so they could use any device. The copy editors had a Facebook page, but they admitted that they relied more on e-mail because everyone used it. It seemed like our participants' main concerns were flexibility, accessibility, and automation.

1. **Who is going to use the design?**
   Busy people who have to create their own schedules. For example: independent contractors who work from home, the editors at The Daily, professors or TAs at the UW, and pharmacists at Bartell Drugs.
2. **What tasks do they now perform?**
   Most of them already use some kind of schedule like Google calendar, Dayforce, automatic phone reminders, or notebook planners. These schedulers can display their plans, but can't check their hours spent on work, sleep or social life. They also can't share information such as bus times, or other people's schedules.
3. **What tasks are desired?**
   Tasks that can keep track of hours spending on work, sleep and social life, help the users to achieve their ideal balance of time. Pulling information from other applications such as google calendar into our application would make it easy to quickly update schedules, or to automatically notify the user when something outside of their control changes. Sharing schedules over social networks would help users find out the best times to hang out without extensive planning.
4. **How are the tasks learned?**
   These tasks are already a part of our users' lives as they plan their schedules and learn from experience how a poor time balance can affect their happiness and

productivity. We need make these tasks easy to manage, especially for people who don't like entering a lot of data into an application, or don't have time to constantly update their plans.

5. **Where are the tasks performed?**
   These tasks are performed at home, in the office and at school, but only during downtime. Users must be able to easily access the application any time they want, especially in short notice.

6. **What is the relationship between the person and data?**
   The data gathered reveals how much time users spend on their work, study, entertainment, sleep and so on. Each user has their own ideal time balance, a set of personal goals which they could achieve if they had easy access to this data.

7. **What other tools does the person have?**
   There are many competing tools such as Google calendar, Dayforce, automatic phone reminders, and notebook planners.

8. **How do people communicate with each other?**
   People currently struggle to communicate their schedules over different networks, each with their own format. Our technology could share busy schedules and find out the best work and social time.

9. **How often are the tasks performed?**
   The simplest tasks like schedule planning are performed many times throughout the day, but much larger decisions like choosing job responsibilities, quarterly classes, and commute plans are only done each week or less often.

10. **What are the time constraints on the tasks?**
    When the user is busy, they may only have minutes or even seconds to check their schedule and understand their time balance. However, we can't limit the interaction for users who want to put in more effort to thoroughly analyze their time balance.

11. **What happens when things go wrong?**
    When users forget to input their schedule, they may miss critical deadlines or otherwise throw off their time balance. When the technology fails, they may be stressed and frustrated. In the worst case scenario, they might lose their schedule entirely.